

What is claimed is:

1. An absorbent article having a longitudinal dimension and a lateral dimension comprising:
  - a top sheet;
  - a back sheet; and
  - a multi-component absorbent core composite disposed between the top sheet and the back sheet;wherein the multi-component absorbent core composite includes at least a first and second different absorbent core units, where at least the first absorbent core unit is comprised of a mixture of tow fibers and superabsorbent polymer (SAP).
2. The absorbent article of claim 1, whereby the article has a first waist region, a second waist region longitudinally opposed to the first waist region, and a crotch region between the first and second waist regions, the article further comprising at least one fastening element attached to a lateral edge of the first waist region; and one or more target devices attached to the article in the second waist region, where at least one fastening element and the one or more target devices are capable of attaching to one another, the one or more target devices being located so that the first waist region and second waist region of the garment may be joined to one another to secure the garment on a wearer.
3. The absorbent article of claim 2, further comprising elastic leg gathers comprising one or more elastic materials disposed adjacent a lateral edge of the crotch region, and standing leg gathers disposed on the top sheet adjacent the lateral edge of the crotch region.

4. The absorbent article of claim 2, wherein the at least one fastening element comprises a hook portion of a hook and loop fastener and the one or more target devices comprise the loop portion of a hook and loop fastener.
5. The absorbent article of claim 2, wherein the at least one fastening element is an adhesive tape and the one or more target devices comprise a tape receiving surface.
6. The absorbent article of claim 2, wherein the at least one fastening element is comprised of a pair of laterally extending tabs disposed on the lateral edges of the first waist region, whereby the laterally extending tabs each include at least one fastening element.
7. The absorbent article of claim 1, wherein at least one additional layer is disposed between the multi-component absorbent core composite and the top sheet.
8. The absorbent article of claim 7, wherein the at least one additional layer is selected from the group consisting of a fluid acquisition layer, a distribution layer, an additional fibrous layer optionally containing SAP, a wicking layer, a storage layer, and combinations and fragments thereof.
9. The absorbent article of claim 1, wherein one of the absorbent core units includes at least one additional layer.
10. The absorbent article of claim 9, wherein the at least one additional layer is selected from the group consisting of a fluid acquisition layer, a distribution layer, an additional fibrous layer optionally containing

SAP, a wicking layer, a storage layer, and combinations and fragments thereof.

11. The absorbent article of claim 1, wherein the absorbent core unit that includes tow and SAP is a multi-layered absorbent core unit including two outer tissue layers and a central layer that comprises from about 50% to about 95% by weight super absorbent polymer (SAP), and has a SAP efficiency of at least 80%.
12. The absorbent article of claim 11, wherein the central layer comprises tow fibers selected from the group consisting of cellulose acetate fibers, rayon fibers, LYOCELL fibers, polyacrylonitrile fibers, cotton fibers and cotton linter fibers.
13. The absorbent article of claim 11, wherein the central layer further comprises up to 10% by weight fluff wood pulp fibers.
14. The absorbent article of claim 11, wherein the central layer further comprises particulate additives.
15. The absorbent article of claim 1, wherein the tow is a cellulose ester tow.
16. The absorbent article of claim 15, wherein the tow is a cellulose acetate tow.
17. The absorbent article of claim 1, wherein the at least one second absorbent core unit is comprised of the same materials as the first absorbent core unit in differing amounts.
18. The absorbent article of claim 17, wherein both the first and the at least one second absorbent core unit comprise at least fiber and SAP, and

the at least one second absorbent core unit has a different SAP: fiber ratio than the first absorbent core unit.

19. The absorbent article of claim 1, wherein the at least one second absorbent core unit is comprised of at least one different material than the first absorbent core unit.
20. The absorbent article of claim 19, wherein the at least one second absorbent core unit includes a different fibrous component than the first absorbent core unit.
21. The absorbent article of claim 19, wherein the at least one second absorbent core unit does not include a fibrous component.
22. The absorbent article of claim 19, where the at least one second absorbent core unit includes a different SAP than the first absorbent core unit.
23. The absorbent article of claim 19, wherein the at least one second absorbent core unit includes a different amount of adhesive than that used in the first absorbent core unit.
24. The absorbent article of claim 1, wherein the first absorbent core unit is disposed between two second absorbent core units.
25. The absorbent article of claim 24, wherein the absorbent article comprises two waist regions disposed near its longitudinal ends, and a centrally disposed crotch region, whereby the two second absorbent core units are disposed near one of the waist region, and the first absorbent core unit longitudinally extends from one waist region to the other.

26. The absorbent article of claim 1, wherein the first absorbent core unit is disposed above the second absorbent core unit, and is disposed near the middle of the second absorbent core unit.
27. The absorbent article of claim 26, the absorbent article comprises two waist regions disposed near its longitudinal ends, and a centrally disposed crotch region, whereby the two second absorbent core units are disposed near one of the waist region, and the first absorbent core unit longitudinally extends from one waist region to the other.
28. The absorbent article of claim 26, the absorbent article comprises two waist regions disposed near its longitudinal ends, and a centrally disposed crotch region, whereby the first absorbent core unit is disposed in the crotch region, and the at least one second absorbent core unit longitudinally extends from one waist region to the other.
29. The absorbent article of claim 26, the absorbent article comprises two waist regions disposed near its longitudinal ends, and a centrally disposed crotch region, whereby the first absorbent core unit is disposed near one waist region and extends longitudinally into the crotch region, and the at least one second absorbent core unit is disposed near the other waist region and extends longitudinally into the crotch region where it is overlapped by the first absorbent core unit.
30. A method of making an absorbent article comprising:
- a) preparing a top sheet and a back sheet;
  - b) preparing a multi-component absorbent core composite by:
    - b1) preparing a first absorbent core unit that contains a mixture of tow fibers and SAP;

b2) preparing at least one second absorbent core unit that is different from the first absorbent core unit; and

b3) arranging the first and the at least one second absorbent core units to form a multi-component absorbent core composite; and

c) disposing the multi-component absorbent core composite between the top sheet and the back sheet,

31. The method of claim 30, further comprising disposing at least one additional layer between the multi-component absorbent core composite and the top sheet.
32. The method of claim 31, wherein the at least one additional layer is selected from the group consisting of a fluid acquisition layer, a distribution layer, an additional fibrous layer optionally containing SAP, a wicking layer, a storage layer, and combinations and fragments thereof.
33. The method of claim 30, further comprising adding an additional layer to the first or the at least one second absorbent core units.
34. The method of claim 33, wherein the at least one additional layer is selected from the group consisting of a fluid acquisition layer, a distribution layer, an additional fibrous layer optionally containing SAP, a wicking layer, a storage layer, and combinations and fragments thereof.
35. The method of claim 30, wherein preparing the first absorbent core unit the absorbent core unit that includes tow and SAP comprises providing two outer tissue layers; and disposing a central layer including at least tow fiber and SAP between the outer tissue layers, whereby the central layer that comprises from about 50% to about 95%

by weight super absorbent polymer (SAP), and has a SAP efficiency of at least 80%.

36. The method of claim 35, wherein the central layer comprises tow fibers selected from the group consisting of cellulose acetate fibers, rayon fibers, LYOCELL fibers, polyacrylonitrile fibers, cotton fibers and cotton linter fibers.
37. The method of claim 35, wherein the central layer further comprises up to 10% by weight fluff wood pulp fibers.
38. The method of claim 35, wherein the central layer further comprises particulate additives.
39. The method of claim 35, wherein the tow is a cellulose ester tow.
40. The method of claim 39, wherein the tow is a cellulose acetate tow.
41. The method of claim 30, wherein the at least one second absorbent core unit is comprised of the same materials as the first absorbent core unit in differing amounts.
42. The method of claim 41, wherein both the first and the at least one second absorbent core unit comprise at least fiber and SAP, and the at least one second absorbent core unit has a different SAP: fiber ratio than the first absorbent core unit.
43. The method of claim 30, wherein the at least one second absorbent core unit is comprised of at least one different material than the first absorbent core unit.

44. The method of claim 43, wherein the at least one second absorbent core unit includes a different fibrous component than the first absorbent core unit.
45. The method of claim 43, wherein the at least one second absorbent core unit does not include a fibrous component.
46. The method of claim 43, where the at least one second absorbent core unit includes a different SAP than the first absorbent core unit.
47. The method of claim 43, wherein the at least one second absorbent core unit includes a different amount of adhesive than that used in the first absorbent core unit.
48. The method of claim 30, the method comprising disposing the first absorbent core unit between two second absorbent core units.
49. The method of claim 48, wherein the absorbent article comprises two waist regions disposed near its longitudinal ends, and a centrally disposed crotch region, the method comprising disposing the two second absorbent core units near one of the waist region, and the longitudinally extending the first absorbent core unit from one waist region to the other.
50. The method of claim 30, further comprising disposing the first absorbent core unit above the second absorbent core unit, whereby the first absorbent core unit is disposed near the middle of the second absorbent core unit.
51. The method of claim 50, the absorbent article comprises two waist regions disposed near its longitudinal ends, and a centrally disposed crotch region, the method comprising disposing the two second



absorbent core units near one of the waist region, and longitudinally extending the first absorbent core unit from one waist region to the other.

52. The method of claim 50, the absorbent article comprises two waist regions disposed near its longitudinal ends, and a centrally disposed crotch region, the method comprising disposing the first absorbent core unit in the crotch region, and longitudinally extending the at least one second absorbent core unit from one waist region to the other.

53. The method of claim 50, the absorbent article comprises two waist regions disposed near its longitudinal ends, and a centrally disposed crotch region, the method comprising disposing the first absorbent core unit near one waist region and longitudinally extending the first absorbent core unit into the crotch region, and disposing the at least one second absorbent core unit near the other waist region and longitudinally extending the at least one second absorbent core unit into the crotch region where it is overlapped by the first absorbent core unit